CLAIMS

1. An optical servo writer system comprises:

a laser generating beams of collimated light;

a lens positioned to receive and focus the collimated light; and

a spatial filter positioned adjacent the lens to allow a subset of the collimated light to pass through the filter.

2. The system of claim 1 further comprising an optical subsystem positioned between the laser and the lens, the optical subsystem receiving the beams of collimated light and splitting the beams.

3. The system of claim 2 wherein the spilt beams comprise servo beams and ghost beams.

4. The system of claim 3 wherein the subset is servo beams.

5. The system of claim 1 further comprising a digital linear tape positioned adjacent the spatial filter with the spatial filter allowing the subset of collimated light to hit the digital linear tape and produce servo marks.

6. The system of claim 2 wherein the optical subsystem comprises an attenuator placed in proximity to a beam expander and a diffractive optical element.

7. The system of claim 2 wherein the optical subsystem comprises a bi-prism and several lenses.

8. The system of claim 5 wherein the spatial filter includes a plurality of openings positioned to allow the subset of collimated light to pass through the filter.

9. The system of claim 8 wherein the plurality of openings are positioned relative to the plane of the digital linear tape to prevent debris from clogging the openings when the subset of collimated light hits the digital linear tape to produce servo marks.

10. The system of claim 9 wherein the position of the successive openings are staggered relative to the plane of the digital linear tape.

11. The system of claim 1 wherein the spatial filter comprises an ablatable film bonded to a clear substrate.

12. An optical system for producing a plurality of servo marks on a digital linear tape comprises:

a laser generating beams of collimated light;

an optical subsystem positioned to receive the beams of collimated light and split the beams;

a lens positioned to receive and focus the split beams; and

a spatial filter positioned adjacent the lens to allow a subset of the split beams to pass through the filter.

13. The system of claim 12 wherein the split beams include servo beams and ghost beams.

14. The system of claim 13 wherein the subset is the servo beams.

15. The system of claim 14 wherein the servo beams hit the digital linear tape.

16. The system of claim 12 wherein the spatial filter includes a plurality of apertures positioned to allow the subset of split beams to pass through the filter.

17. The system of claim 16 where the plurality of apertures are staggered with respect to each other so as to prevent clogging.

18. A method for producing optical servo marks on a digital linear tape comprises:

generating beams of collimated light in a laser;

receiving and focusing the beams of collimated light in a lens; and

filtering the beams of collimated light near the focus of the lens to allow a subset of the beams to pass through a filter and hit the digital linear tape.

19. The method of claim 18 wherein generating further comprises splitting the beams of collimated light into desired beams and ghost beams.

20. The method of claim 19 wherein splitting is accomplished by passing the beams of collimated light through a diffractive optical element.

21. The method of claim 19 wherein splitting is accomplished by passing the beams of collimated light through a bi-prism lens to generate two beams which are then brought back together by several lenses to form multiple spots on the tape by means of two beam interference.

22. The method of claim 18 wherein the subset of beams is the desired beams.

23. The method of claim 18 wherein filtering comprises passing the beams of collimated light to a spatial filter.

24. The method of claim 23 wherein the spatial filter includes a plurality of openings positioned to allow the subset to pass through the filter.

25. The method of 24 wherein the plurality of openings are generated in situ.

26. The method of claim 23 wherein generating the openings comprises:

providing a solid spatial filter;

generating openings in the spatial filter by allowing the subset to cut through the spatial filter to produce the plurality of openings.

27. The method of claim 24 wherein the openings are staggered with respect to each other to minimize clogging.

28. An optical servo writer system for a digital linear tape comprises:

a laser optics system generating beams of collimated light;

a first lens positioned to receive and focus the collimated light;

a spatial filter positioned adjacent the lens to allow a subset of the collimated light to be focused and pass through the filter; and

a second lens positioned to restore the subset into collimated beams that propagate towards a third lens.

29. The system of claim 28 wherein the beams comprise servo beams and ghost beams.

30. The system of claim 29 wherein the subset is servo beams.

31. The system of claim 30 wherein the third lens focuses the subset onto the digital linear tape producing servo marks.

32. The system of claim 28 wherein the laser optics system comprises:

a laser source for producing light to an attenuator; and

a beam expander for receiving the light and expanding the beam to become a collimated beam with the proper diameter and sending it to a diffractive optical element.

33. The system of claim 28 wherein the laser optics system comprises a laser source for producing light to a bi-prism lens to generate two beams which are then brought back together by several lenses to form multiple spots on the tape by means of two beam interference.

34. The system of claim 28 wherein the spatial filter includes a plurality of openings positioned to allow the subset through the spatial filter.

35. The system of claim 28 wherein the first lens is a planar-convex lens.

36. The system of claim 28 wherein the second lens is a planar-convex lens.

37. The system of claim 28 wherein the third lens is a scan lens.